

Title (en)

METHODS FOR STORAGE AND TRANSPORTATION OF NATURAL GAS IN LIQUID SOLVENTS

Title (de)

VERFAHREN ZUR LAGERUNG UND ZUM TRANSPORT VON ERDGAS IN FLÜSSIGEN LÖSUNGSMITTELN

Title (fr)

PROCÉDÉS POUR LE STOCKAGE ET LE TRANSPORT DE GAZ NATUREL DANS DES SOLVANTS LIQUIDES

Publication

EP 2627941 A1 20130821 (EN)

Application

EP 11773160 A 20111012

Priority

- US 39213510 P 20101012
- US 2011056009 W 20111012

Abstract (en)

[origin: WO2012051336A1] Systems and methods to create and store a liquid phase mix of natural gas absorbed in light -hydrocarbon solvents under temperatures and pressures that facilitate improved volumetric ratios of the stored natural gas as compared to CNG and PLNG at the same temperatures and pressures of less than 80° to about -120 °F and about 300 psig to about 900 psig. Preferred solvents include ethane, propane and butane, and natural gas liquid (NGL) and liquid pressurized gas (LPG) solvents. Systems and methods for receiving (11,13) raw production or semi - conditioned natural gas, conditioning the gas, producing (14) a liquid phase mix of natural gas absorbed in a light -hydrocarbon solvent, and transporting (16) the mix to a market where pipeline quality gas or fractionated products are delivered in a manner utilizing less energy than CNG, PLNG or LNG systems with better cargo-mass to containment -mass ratio for the natural gas component than CNG systems.

IPC 8 full level

F17C 11/00 (2006.01)

CPC (source: EP KR US)

F17C 11/007 (2013.01 - EP KR US); **B63B 2025/087** (2013.01 - EP KR US); **F17C 2205/0107** (2013.01 - EP KR US); **F17C 2205/013** (2013.01 - EP KR US); **F17C 2223/0123** (2013.01 - EP KR US); **F17C 2270/0105** (2013.01 - EP KR US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2012051336 A1 20120419; AR 083396 A1 20130221; AU 2011316568 A1 20130523; AU 2011316568 B2 20160630; AU 2016222510 A1 20161013; AU 2016222510 B2 20170831; BR 112013009092 A2 20160726; BR 112013009092 B1 20210706; BR 122021002277 B1 20220125; CA 2816295 A1 20120419; CA 2816295 C 20190122; CA 3015265 A1 20120419; CA 3015265 C 20200107; CN 103477144 A 20131225; CN 103477144 B 20160615; EP 2627941 A1 20130821; JP 2014500933 A 20140116; JP 2016145646 A 20160812; JP 6141575 B2 20170607; JP 6243961 B2 20171206; KR 102018900 B1 20190906; KR 102154748 B1 20200911; KR 20130139994 A 20131223; KR 20190104448 A 20190909; MX 2013004205 A 20130913; MX 2020005494 A 20200903; MY 166422 A 20180625; RU 2013120550 A 20141120; RU 2589591 C2 20160710; SG 10201508443P A 20151127; SG 10201800222Q A 20180227; SG 190086 A1 20130628; US 10100980 B2 20181016; US 10801672 B2 20201013; US 11280451 B2 20220322; US 11815226 B2 20231114; US 2012180502 A1 20120719; US 2016186931 A1 20160630; US 2017356598 A1 20171214; US 2019323661 A1 20191024; US 2021108762 A1 20210415; US 2023029879 A1 20230202; US 2024159361 A1 20240516; US 9182080 B2 20151110; US 9574710 B2 20170221; UY 33666 A 20120731

DOCDB simple family (application)

US 2011056009 W 20111012; AR P110103774 A 20111012; AU 2011316568 A 20111012; AU 2016222510 A 20160902; BR 112013009092 A 20111012; BR 122021002277 A 20111012; CA 2816295 A 20111012; CA 3015265 A 20111012; CN 201180059898 A 20111012; EP 11773160 A 20111012; JP 2013533981 A 20111012; JP 2016092430 A 20160502; KR 20137012126 A 20111012; KR 20197025594 A 20111012; MX 2013004205 A 20111012; MX 2020005494 A 20130412; MY PI2013700988 A 20111012; RU 2013120550 A 20111012; SG 10201508443P A 20111012; SG 10201800222Q A 20111012; SG 2013033436 A 20111012; US 201113272136 A 20111012; US 201514881619 A 20151013; US 201615387360 A 20161221; US 201816134640 A 20180918; US 202017015848 A 20200909; US 202217699866 A 20220321; US 202318377047 A 20231005; UY 33666 A 20111012